

Collaborative Study for Analysis of high Resolution
Infrared Atmospheric Spectra Between NASA Langley
Research Center and the University of Denver

NASA Langley Research Center

Contract NCCI-48

Final Report
Summary of Research

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Summary of Research

The Langley-D.U. collaboration on the analysis of high resolution infrared atmospheric spectra covered a number of important studies of trace gases identification and quantification from field spectra, and spectral line parameters analysis.

The collaborative work included:

- * Quantification and monitoring of trace gases from ground-based spectra available from various locations and seasons and from balloon flights.
- * Studies toward identification and quantification of isotopic species, mostly Oxygen and Sulfur isotopes.
- * Search for new species on the available spectra.
- * Update of spectroscopic line parameters, by combining laboratory and atmospheric spectra with theoretical spectroscopy methods.
- * Study of trends of atmosphere trace constituents.
- * Algorithms developments, retrievals intercomparisons and automatization of the analysis of NDSC spectra, for both column amounts and vertical profiles.

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Nov. 15, 1999

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Dear Sir,

Enclosed is one copy(one-sided, not stapled) of the Final Report
for D.U.-NASA Langley Collaborative Study NCCI-48.

A copy was also sent to the grants officer(Mr. R.T. Lacks) and to
the technical officer(Dr. C.P. Rinsland).

NASA's continuing support and encouragement are greatly
appreciated.

Sincerely Yours,

Aaron Goldman

Dr. Aaron Goldman
Senior Research Physicist
Professor of Physics